

REMARKS

This is in response to the Office Action of October 16, 2007. Applicants gratefully acknowledge the Examiner's indication of allowable subject matter in this application (claim 24 stands allowed). Minor formal amendments are made to claim 43. These are non-narrowing amendments. No new matter is introduced by the present Amendment. Claims 12-20, 24, and 43 are pending in the application.

Anticipation

Claims 12-20 and 43 stand rejected under 35 U.S.C. §102(b) as being anticipated by US 4,963,498 to Hillman et al. ("Hillman"). Office Action, page 3. To anticipate a claim, the reference must teach every element of the claim. MPEP 2131. Applicants respectfully submit that the Examiner has not stated a sustainable anticipation rejection under 35 U.S.C. §102(b).

The Examiner refers for the statement of this anticipation rejection to "the appropriate paragraph of the 9/13/06 Office action." The entire text of the explanation of the anticipation rejection in that Office Action is as follows:

Hillman et al. teach in figure 2a a device (50) with a receiving chamber (58), a reaction chamber (60). Capillary channel (66) connects the receiving chamber (58) to the reaction chamber (60). Vent (72) is connected to the reaction chamber by channel (76). The claimed "sample receiving chamber" has been read on the taught chamber (58). The claimed distributor channel" has been read on the taught channel (66). The claimed "reaction chamber" has been read on the taught chamber (60). The claimed "vent opening for each ... has a connecting channel extending therefrom" has been read on the taught vent (72) and channel (76).

Office Action of September 13, 2006, page 3.

Claim 12-20 and 43 herein recite many features in addition to those addressed by the Examiner in the statement of the rejection. For instance, the claims require "a plurality of reaction chambers." This feature of plurality of reaction chambers is not anticipated by single reaction chamber (60) in Hillman, and the Examiner does not even allege that this feature of the present invention is taught by the reference. Thus, for this reason alone there can be no

anticipation of the present invention.

The claims herein require “a plurality of ... connecting channels ... arranged to enter respectively one venting collection channel comprising a venting collecting opening.” This feature of one venting collection channel being entered by a plurality of connecting channels is not taught by single vent (72) and channel (76) in Hillman. Again, for this reason alone there can be no anticipation of the present invention.

The claims herein require “surfaces in the entrance region of the inflow channel ... configured as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber *exclusively* by capillary force.” The Examiner’s statement of the outstanding anticipation rejection does not even purport to find this important feature of the presently claimed invention in the Hillman reference. Once again, for this reason alone there can be no anticipation of the present invention.

It is manifest that the rejection of record of claims 12-20 and 43 under 35 U.S.C. §102(b) as being anticipated by Hillman does not meet the minimum requirements for an anticipation rejection set forth in MPEP 2131. Withdrawal of this ground of rejection is in order and is earnestly solicited.

Double patenting

Claims 11-20 and 43 stand rejected on the ground of obviousness-type double patenting over claims 1-29 of US 7,094,354 B2 to Puglia et al. (“Pugia”). This ground of rejection as set forth in the outstanding Office Action is respectfully traversed.

According to MPEP 804, “Any obviousness-type double patenting rejection should make clear: (A) The differences between the inventions defined by the conflicting claims ...; and (B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue ... would have been an obvious variation of ... the invention defined in a claim in the patent.”

The Examiner’s statement of the rejection addresses only one of the many differences between the invention defined by claim 43 herein and the invention defined by claim 1 of the Puglia patent. The Examiner’s statement of the double patenting rejection on pages 2-4 of the

Office Action says nothing at all about such features of Applicants' claim 43 as follows:

1) "a cavity which is delimited by surfaces and is entered by an inflow channel branched off" or

2) "a plurality of ... connecting channels ... arranged to enter respectively one venting collecting channel" or

3) "surfaces ... configured as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber *exclusively* by capillary force."

It is manifest that the Examiner's statement of the rejection does not make clear the differences between the inventions defined by the allegedly conflicting claims (e.g., claim 43 here and claim 1 of Puglia). It goes without saying that the Examiner has not demonstrated that all of these differences – which he has not even mentioned – are such that a person of ordinary skill in the art would conclude that the invention defined in the claims at issue would have been an obvious variation of the invention defined in a claim in the patent. Clearly, the Examiner has failed to state a sustainable double patenting rejection.

Even a one-way test for double patenting is not met by the Examiner's rejection. It is noted additionally, however, that the claims of US 7,094,354 B2 in turn contain many limitations not included in the claims of the present application. For instance, independent claims 1, 12, and 25 in the patent require "a depth to particle diameter ratio of about 5/1 to 100/1, said ratio being chosen to avoid clogging of the chamber with said particles and as a function of the force to be applied to said mixture" and "a wall surface having a surface energy equal to or less than the surface energy of said particles to facilitate separation of said sample by attraction of said particles to said wall surface." No such features are required in the present invention.

Applicants have previously pointed out that the present application and US 7,094,354 B2 relate to different subject matter. The *claims* of US 7,094,354 B2 are directed to an apparatus and method for the *separation of a mixture of a liquid and particles* in a microfluidic device. In contrast, the presently claimed invention has nothing to do with the separation of particles in a microfluidic device. Instead, the present *claims* are drawn to a

sample support.

Claim 43 requires among other things that “in each reaction chamber, said ***surfaces*** in the entrance region of the inflow channel which are provided for delimiting said cavity, ***are configured*** as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber exclusively by capillary force.” Thus it is clear that a structural feature of the claimed apparatus – the surface configuration in question – is what enables the apparatus to provide the recited exclusive flow force. Accordingly, this feature is not an intended use – it is a structural feature of the surfaces of the claimed sample support.

Additionally, unlike the claims of the cited patent, the present claims require a plurality of reaction chambers – that is, more than one reaction chamber is required in the present invention. The Examiner argues on page 3 of the Office Action that “making a plurality of chambers to achieve the well-known and expected multiplied effect would have been obvious,” citing *St. Regis Paper Co., v. Bemis Co., Inc.*, 193 USPQ 8, 11 (7th Cir. 1977), *cert. denied*, 195 USPQ 465. Applicants have carefully considered page 11 of the cited decision, and do not find therein anything about duplication of connecting channels or dissipating gas or any other such chemical engineering features. Instead, the decision in question is concerned with paper bags. The crux of the *St. Regis Paper* decision is summarized in the court’s statement that “It is difficult to conceive of a more obvious method of strengthening a certain type of bag than putting one bag inside of another”. 193 USPQ at 11. It is not clear why the Examiner believes that the court’s holding in *St. Regis Paper* makes it *prima facie* obvious to completely rework the Puglia invention to employ a plurality of reaction chambers. (This plurality feature, of course, is but one differentiation between the present invention and that claimed by Puglia.)

There is a clear line of demarcation between the claims now pending in this application and the claims in US 7,094,354 B2. That line of demarcation includes the plurality of reaction chambers required in the present invention, a feature not found in the claims of the patent. That line of demarcation also includes a plurality of connecting channels arranged to enter respectively a single (that is, joint) venting collecting channel comprising a venting collecting opening. The line of demarcation between the present claims and those of

the patent also includes “a depth to particle diameter ratio of about 5/1 to 100/1, said ratio being chosen to avoid clogging of the chamber with said particles and as a function of the force to be applied to said mixture” and “a wall surface having a surface energy equal to or less than the surface energy of said particles to facilitate separation of said sample by attraction of said particles to said wall surface,” neither of which features is required in the present invention.

The Examiner has failed to cite prior art demonstrating that persons of ordinary skill in the art would be motivated to change the technology recited in the distinct claims of the patent to coincide with any claim herein. Accordingly, it is respectfully submitted that the obviousness-type double patenting rejection of record is not sustainable, and should be withdrawn.

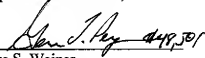
Conclusion

The Examiner has failed to state any rejection of any claim in this application that would be sustained – based upon the Examiner’s presentation of the rejection – by the Board of Appeals. Withdrawal of all rejections of record – that is, the double patenting rejection and the anticipation rejection – is in order and is earnestly solicited.

If there are questions concerning this application, the Examiner is invited to contact Richard Gallagher (Reg. No. 28,781) at (703) 205-8008.

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Respectfully submitted,

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